

Appl. No. 09/715,668
Amendment dated July 24, 2006
Reply to Office action of February 22, 2006

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (currently amended): A method of communicating a desired bit sequence over a wireless communication link, comprising:

including the desired bit sequence a number N times in each of a plurality of transmissions over the wireless communication link, wherein the number N is greater than one;

producing in response to each of the ~~plurality of~~ transmissions a received bit sequence corresponding to the desired bit sequence;

obtaining information indicative of communication quality associated with each of the ~~plurality of~~ transmissions; and

making a determination of the desired bit sequence based on a combination of the received bit sequences and the communication quality information.

Claim 2 (original): The method of Claim 1, wherein said obtaining step includes estimating signal-to-noise ratios respectively associated with the plurality of transmissions.

Claim 3 (original): The method of Claim 1, including transmitting the plurality of transmissions on respectively different transmission frequencies.

Claim 4 (original): The method of Claim 1, wherein the wireless

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communication link is a Bluetooth link.

Claim 5 (original): The method of Claim 1, wherein said producing step includes decoding each of a plurality of packets which are respectively included in the plurality of transmissions and in each of which is included the desired bit sequence.

Claim 6 (original): The method of Claim 1, wherein said making step includes providing in response to the received bit sequences and the communication quality information a plurality of predetermined probabilities that the respective received bit sequences correspond to a predetermined bit sequence that could possibly be the desired bit sequence.

Claim 7 (previously presented): A method of communicating a desired bit sequence over a wireless communication link, comprising:

including the desired bit sequence in each of a plurality of transmissions over the wireless communication link;

producing in response to each of the plurality of transmissions a received bit sequence corresponding to the desired bit sequence;

obtaining information indicative of communication quality associated with each of the plurality of transmissions; and

making a determination of the desired bit sequence based on the received bit sequences and the communication quality information,

wherein said making step includes providing in response to the received bit sequences and the communication quality information a plurality of predetermined probabilities that the respective received bit sequences correspond to a predetermined bit sequence that could possibly be the desired

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bit sequence, and

wherein said making step includes multiplying the predetermined probabilities together to produce a product.

Claim 8 (original): The method of Claim 7, wherein said making step includes performing said probability providing step and said multiplying step for a plurality of predetermined bit sequences that could possibly be the desired bit sequence in order to produce a plurality of products respectively corresponding to the plurality of predetermined bit sequences.

Claim 9 (original): The method of Claim 8, wherein said making step includes making a determination that the predetermined bit sequence corresponding to the largest of the products is the desired bit sequence.

Claim 10 (original): The method of Claim 1, wherein said obtaining step includes obtaining a plurality of correlation values respectively associated with the plurality of transmissions.

Claim 11 (original): The method of Claim 10, wherein said making step includes making a determination that the received bit sequence corresponding to the largest of the correlation values is the desired bit sequence.

Claim 12 (original): The method of Claim 10, wherein said making step includes combining the received bit sequences with the corresponding correlation values.

Claim 13 (previously presented): A method of communicating a desired bit sequence over a wireless communication link, comprising:

including the desired bit sequence in each of a plurality of transmissions over the wireless communication link;

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producing in response to each of the plurality of transmissions a received bit sequence corresponding to the desired bit sequence;

obtaining information indicative of communication quality associated with each of the plurality of transmissions; and

making a determination of the desired bit sequence based on the received bit sequences and the communication quality information,

wherein said obtaining step includes obtaining a plurality of correlation values respectively associated with the plurality of transmissions.

wherein said making step includes combining the received bit sequences with the corresponding correlation values, and

wherein said combining step includes multiplying each of the received bit sequences by one of the corresponding correlation value and the square of the corresponding correlation value to produce a plurality of multiplication results.

Claim 14 (original): The method of Claim 13, wherein said combining step includes summing the multiplication results together to produce a summation result, said making step including decoding the summation result and making a determination that the decoded summation result is the desired bit sequence.

Claim 15 (canceled).

Claim 16 (currently amended): A wireless communication apparatus, comprising:

a first input for receiving a number N plurality of received bit sequences respectively produced in response to the number N a plurality of transmissions received via a wireless communication link, each of said received bit sequences

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corresponding to a same desired bit sequence included in each of said plurality of transmissions and wherein the number N is greater than one;

a second input for receiving information indicative of communication quality associated with each of the plurality of transmissions; and

a determiner coupled to said inputs for making a determination of the desired bit sequence based on a combination of the received bit sequences and the communication quality information.

Claim 17 (original): The apparatus of Claim 16, provided as a Bluetooth device.

Claim 18 (original): The apparatus of Claim 16, wherein each of said plurality of transmissions includes a packet having therein the desired bit sequence, and including a decoder coupled to said first input for receiving said packets via the wireless communication link and for decoding said packets to produce the respective bit sequences.

Claim 19 (original): The apparatus of Claim 16, wherein said determiner is operable for providing in response to the received bit sequences and the communication quality information a plurality of predetermined probabilities that the respective bit sequences correspond to a predetermined bit sequence that could possibly be the desired bit sequence.

Claim 20 (currently amended): A wireless communication apparatus, comprising:

a first input for receiving a number N plurality of received bit sequences respectively produced in response to the number N a ~~plurality~~ of transmissions received via a wireless communication link, each of said received bit sequences

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corresponding to a desired bit sequence included in each of said plurality of transmissions and wherein the number N is greater than one;

a second input for receiving information indicative of communication quality associated with each of the plurality of transmissions; and

a determiner coupled to said inputs for making a determination of the desired bit sequence based on the received bit sequences and the communication quality information,

wherein said determiner is operable for providing in response to the received bit sequences and the communication quality information a plurality of predetermined probabilities that the respective bit sequences correspond to a predetermined bit sequence that could possibly be the desired bit sequence, and

wherein said determiner is operable for multiplying the predetermined probabilities together to produce a product.

Claim 21 (original): The apparatus of Claim 20, wherein said determiner is operable to provide, for each of a plurality of predetermined bit sequences that could possibly be the desired bit sequence, a plurality of predetermined probabilities that the respective received bit sequences correspond to the predetermined bit sequence, said determiner further operable to multiply together the plurality of predetermined probabilities associated with each of said predetermined bit sequences in order to produce a plurality of products respectively corresponding to the plurality of predetermined bit sequences.

Claim 22 (original): The apparatus of Claim 21, wherein said determiner is operable for making a determination that the predetermined bit sequence corresponding to the largest of the products is the desired bit sequence.

Claim 23 (original): The apparatus of Claim 16, including a correlator

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coupled to said second input for producing a plurality of correlation values respectively associated with said plurality of transmissions and providing the correlation values to said second input.

Claim 24 (original): The apparatus of Claim 23, wherein said determiner is operable for making a determination that the received bit sequence corresponding to the largest of the correlation values is the desired bit sequence.

Claim 25 (original): The apparatus of Claim 23, wherein said determiner includes a combiner coupled to said first and second inputs for combining the received bit sequences with the corresponding correlation values.

Claim 26 (original): The apparatus of Claim 25, wherein said combiner is operable for multiplying each of the received bit sequences by one of the corresponding correlation value and the square of the corresponding correlation value to produce a plurality of multiplication results.

Claim 27 (previously presented): A wireless communication apparatus, comprising:

a first input for receiving a plurality of received bit sequences respectively produced in response to a plurality of transmissions received via a wireless communication link, each of said received bit sequences corresponding to a desired bit sequence included in each of said plurality of transmissions;

a second input for receiving information indicative of communication quality associated with each of the plurality of transmissions; and

a determiner coupled to said inputs for making a determination of the desired bit sequence based on the received bit sequences and the communication quality information,

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a correlator coupled to said second input for producing a plurality of correlation values respectively associated with said plurality of transmissions and providing the correlation values to said second input,

wherein said determiner includes a combiner coupled to said first and second inputs for combining the received bit sequences with the corresponding correlation values,

wherein said combiner is operable for multiplying each of the received bit sequences by one of the corresponding correlation value and the square of the corresponding correlation value to produce a plurality of multiplication results, and

wherein said combiner is operable for summing the multiplication results together to produce a summation result, said determiner including a decoder coupled to said combiner for decoding the summation result.

Claims 28 and 29 (cancelled).